Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An audio device for providing ~~musical signals~~ music to a user, comprising:
   a) ~~at least one transducer~~ transducers for generating~~, such that enables~~ the music from musical signals~~, is to be heard by said user via transcutaneous bone conduction~~; and
   b) a support ~~means~~ for ~~said transducer~~ holding the transducers ~~to be~~ in vibratory contact with ~~the head of said user~~ a user's head , wherein each of the transducers is positionable at multiple locations on said support~~; and~~
   ~~c) a housing means for housing said at least one transducer~~.

2. (Currently Amended) The audio device according to claim 1, further comprising a housing ~~wherein said at least one transducer includes a plurality of transducers~~ means for housing each of the transducers which includes a waterproofing polymeric material which covers each of the transducers.

3. (Canceled).

4. (Currently Amended) The audio device according to claim [[2]] 1, wherein the musical signals ~~frequency range is~~ are produced in ~~split into three~~ multiple frequency channels.

5. (Currently Amended) The audio device according to claim 4, wherein ~~said three~~ the multiple frequency channels ~~consist of~~ include:
   a) a low frequency channel ~~range,~~ corresponding to music signals at frequencies in a range of 40 to1,000 Hz;
   b) a mid frequency channel ~~range,~~ corresponding to music signals at frequencies in a range of 250 to 6,000 Hz; and

c) a high frequency channel ~~range,~~ corresponding to music signals at frequencies in a range of 5000 to 20,000 Hz.

6. (Currently Amended) The audio device according to claim 1 [[3]], wherein at least one of [[said]] the transducers ~~in said array~~ is an ultrasonic transducer.

7. (Currently Amended) The audio device according to claim 1 [[3]], wherein at least one of [[said]] the transducers ~~in said array~~ is a vibrotactile transducer.

8. (Currently Amended) The audio device according to claim 1, further including at least one amplifier coupled to one or more of the transducers for amplifying the musical signals.

9. (Currently Amended) The audio device according to claim 1, further comprising attachment features which attach said transducers to said support~~at least one of said transducers is positionable at the front of the head of said user~~.

10. (Currently Amended) The audio device according to claim [1] 9, wherein that attachment features are attachment features selected from the group consisting of slide positioning guide features, hook features, snaps features and hook and loop fabric features ~~at least one of said transducers in said array is positionable at the back of the head of said user~~.

11-14. (Canceled).

15. (Currently Amended) The audio device according to claim 5, wherein [[said]] a volume of the music from the low frequency channel ~~range volume~~ is adjustable.

16. (Currently Amended) The audio device according to claim 5, wherein [[said]] a volume of the music from the mid frequency channel ~~range volume~~ is adjustable.

17. (Currently Amended) The audio device according to claim 5, wherein [[said]] a volume of the music from the high frequency channel ~~range volume~~ is adjustable.

18. (Currently Amended) The audio device according to claim [[1]] 5, wherein [[said]] the music generated from the mid frequency ~~range~~ channel has a fixed maximum ~~signal level of~~ volume of 90 dBa ~~for 8 hours~~.

19. (Currently Amended) The audio device of claim 1, wherein ~~said waterproof recreational~~ the audio device transmits [[a]] the music at ~~musical signal of a~~ high fidelity ~~frequency~~ frequencies of 40 KHz or more ~~response across a broad frequency range where there is:~~
[[a)]] ~~a low frequency response is in the range of 40-1000 Hz;~~
[[b)]] ~~a mid frequency response is in the range of 250-6000 Hz; and~~
[[c)]] ~~a high frequency response is in the range of 5000-20,000 Hz~~.

20. (Currently Amended) The audio device of claim 19, wherein ~~said at least one transducer includes~~ the transducers include an ultrasonic transducer

21. (Currently Amended) The audio device of claim 19, wherein ~~said at least one transducer includes~~ the transducers include a vibrotactile transducer.

22. (Currently Amended) The audio device of claim 19, wherein ~~said waterproof recreational~~ the audio device includes a volume control for adjusting a volume of music with high fidelity frequencies of 40,000 Hz or more ~~an adjusting capability for the mid range frequency response, such that:~~
[[a)]] ~~said mid frequency range volume can be adjusted to allow environmental noise to be heard by the user;~~
[[b)]] ~~said mid frequency range has a fixed minimum level to minimize nuisance noise for individuals near said waterproof recreational device; and~~
[[c)]] ~~said mid range has a fixed maximum level to restrict harmful dB noise levels for user~~.

23. (Currently Amended) The audio device of claim [[19]] 5, wherein a volume of at least one of the multiple frequency channels ~~said low frequency range~~ is independently adjustable from a volume of another of the multiple frequency channels.

24. (Canceled).

25. (Canceled).

26. (Currently Amended) The audio device of claim 19, wherein the support comprises a band which fits on a user's head ~~said mid frequency range has a fixed maximum signal level of 90 dBa for 8 hours~~.

27. (Currently Amended) The audio device of claim 1 further comprising a sound source for providing the musical signals to the transducers ~~in communication with said at least one transducer, said sound source generating a music signal which is received by said at least one transducer~~.

28. (Currently Amended) The audio device of claim 27 wherein the sound source provides the musical signals to the transducers through a wire connection ~~said communication between said sound source and said at least one transducer is via a wired connection~~.

29. (Currently Amended) The audio device of claim 27 wherein the sound source provides the musical signals to the transducers through ~~said communication between said sound source and said at least one transducer is via~~ a wireless connection.

30. (Currently Amended) The audio [[video]] device of claim 27 wherein [[said]] the sound source attaches to the support ~~is affixed to said means for said at least one transducer to be in contact with the head of said user~~.

31. (Currently Amended) The audio device of claim 27 wherein [[said]] the sound source is selected from the group consisting of an MP3 player, a tape player, a radio, an audio transceiver, and a disc player.

32. (Currently Amended) A recreational audio device, comprising :

a) ~~at least one transducer~~ transducers that include a polymeric waterproofing cover and ~~which enables~~ that produce an audio output ~~music to be heard by a user via transcutaneous bone conduction~~; and

b) a support which fits around a user's head and ~~which supports said at least one transducer in contact with a head of a user at~~ holds the transducer in contact with a plurality of locations around the head of [[said]] the user, wherein the transducers are movable to different locations on said support, and wherein the transducers generate an audio output transmitted to the user through transcutaneous bone conduction.

33. (Canceled).

34. (Canceled).

35. (Currently Amended) The recreational audio device according to claim 32 wherein ~~said at least one transducer can slide to different locations on said support~~ the transducers are movable to different locations on said support through one or more of slide positioning guide features, hook features, snap features and hook and loop fabric features.

36-38. (Canceled).

39. (Currently Amended) The recreational audio device of claim 32 further comprising a sound source for ~~conveying~~ providing audio signals that generate the audio output through transducers ~~to said at least one transducer~~.

40. (Currently Amended) A method for a user to listen to music via transcutaneous bone conduction, comprising the steps of:

a) supplying musical signals from a source to transducers each of which include a water proof housing at least partially formed from a polymeric material ~~at least one transducer capable of transcutaneous bone conduction~~;

b) contacting ~~a user's head with said at least one transducer~~ the transducers at positions on the user's headl; and

c) transmitting music through the user's head by transcutaneous bone conduction ~~said musical signal to the user~~ through the polymeric material while the user's head is under water.

41. (Currently Amended) The method recited in claim 40, further comprising a step of tuning ~~musical sound heard by a user~~ the music.

42. (Currently Amended) The method of claim 41 wherein ~~said step of~~ tuning ~~comprises changing point of contact of at least one transducer on a user's head~~ the music comprises changing one or more of the positions of the transducers on the user's head.

43. (Currently Amended) The method of claim [[42]] 40, wherein the musical signals are divided among multiple frequency channels ~~wherein changing is accomplished by repositioning a support which supports said at least one transducer on said user's head~~.

44. (Canceled).

45. (Currently Amended) The method of claim 42 wherein changing ~~is accomplished by sliding said at least one transducer to a different location on a support which supports said at least one transducer~~ the one or more of the positions of the transducers on the user's head includes changing a position of one or more of the transducers on said support.

46. (Currently Amended) The method of claim 40 comprising adjusting a volume output of one or more of the transducers ~~of at least one a high, mid, or low frequency transmitted via transcutaneous bone conduction via said at least one transducer~~.

47. (Currently Amended) The method of claim [[40]] 43 further comprising limiting ~~a mid frequency range has a fixed maximum signal level of 90 dBa for 8 hours~~ an output of music from one or more the multiple frequency channels.

48. (New) An audio device comprising:

a) a source for providing audio signals with multiple frequency channels;

b) transducers in communication with the source and being configured to operate over the multiple frequency channels and thereby produce an audio output; and

c) control means for independently controlling audio signals at each of the multiple frequency channels.

49. (New) The audio device of claim 48, wherein the transducers include polymeric surfaces, and wherein the transducers transmit the audio output through the polymeric surfaces to a user via transcutaneous bone conduction.

50. (New) The audio device of claim 48, further comprising a support structure, wherein each of the transducers are configured to be removably secured to multiple locations on the support structure.

51. (New) The audio device of claim 1 wherein said support is a band connected to a pair of swimming goggles, and said transducers are positionable at multiple locations along a length of said band.

CLAIMS

What is claimed is:

1. A waterproof recreational audio device for providing musical signals to a user, comprising:

at least one transducer, such that said transducer enables music to be heard by said user via transcutaneous bone conduction;

a means for said at least one transducer to be in vibratory contact with the head of said user; and

means for waterproofing said at least one transducer.

2. The waterproof recreational audio device according to claim 1, wherein said at least one transducer includes a plurality of transducers.

3. The waterproof recreational audio device according to claim 2, wherein said plurality of transducers is arranged in an array.

4. The waterproof recreational audio device according to claim 2, wherein the musical frequency range is split into three frequency channels.

5. The waterproof recreational audio device according to claim 4, wherein said three frequency channels consist of:

a low frequency range,

a mid frequency range, and

a high frequency range.

6. The waterproof recreational audio device according to claim 3, wherein at least one of said transducers in said array is an ultrasonic transducer.

7. The waterproof recreational audio device according to claim 3, wherein at least one of said transducers in said array is a vibrotactile transducer.

8. The waterproof recreational audio device of claim 1, wherein said audio device includes at least one amplifier.

9. The waterproof recreational audio device according to claim 1, wherein at least one of said transducers is positionable at the front of the head of said user.

10. The waterproof recreational audio device according to claim 1, wherein at least one of said transducers in said array is positionable at the back of the head of said user.

11. The waterproof recreational audio device according to claim 1, wherein said transducer is associated with a band that encircles the head of a user.

12. The waterproof recreational audio device according to claim 1, wherein said transducer is associated with a hat that is worn on the head of said user.

13. The waterproof recreational audio device according to claim 1, wherein said transducer is associated with a helmet that is worn on the head of said user.

14. The waterproof recreational audio device according to claim 1, wherein said transducer is associated with a band of recreational eye wear selected from the group consisting of swim goggles, ski goggles, snorkel mask, and sun glasses.

15. The waterproof recreational audio device according to claim 5, wherein said low frequency

range volume is adjustable.

16. The waterproof recreational audio device according to claim 5, wherein said mid frequency range volume is adjustable.

17. The waterproof recreational audio device according to claim 5, wherein said high frequency range volume is adjustable

18. The waterproof recreational audio device according to claim 1, wherein said mid frequency range has a fixed maximum signal level of 90 dBa for 8 hours.

19. The waterproof recreational audio device of claim 1, wherein said waterproof recreational audio device transmits a musical signal of a high fidelity frequency response across a broad frequency range where there is:

a low frequency response is in the range of 40 - 1000 Hz

a mid frequency response is in the range of 250 - 6000 Hz, and

a high frequency response is in the range of 5000 - 20,000 Hz.

20. The waterproof recreational audio device of claim 19, wherein said at least one transducer includes an ultrasonic transducer.

21. The waterproof recreational audio device of claim 19, wherein said at least one transducer includes a vibrotactile transducer.

22. The waterproof recreational audio device of claim 19, wherein said waterproof recreational audio device includes an adjusting capability for the mid range frequency response, such that:

said mid frequency range volume can be adjusted to allow environmental noise to be

heard by the user,

said mid frequency range has a fixed maximum level to minimize nuisance noise for individuals near said waterproof recreational audio device, and

said mid range has a fixed maximum level to restrict harmful dB noise levels for user.

23. The waterproof recreational audio device of claim 19, wherein a volume of said low frequency range is adjustable.

24. The waterproof recreational audio device of claim 19, wherein a volume of said mid frequency range is adjustable.

25. The waterproof recreational audio device of claim 19, wherein a volume of said high frequency range is adjustable.

26. The waterproof recreational audio device of claim 19, wherein said mid frequency range has a fixed maximum signal level of 90 dBa for 8 hours.

27. The waterproof recreational audio device of claim 1 further comprising a sound source in communication with said at least one transducer, said sound source generating a music signal which is received by said at least one transducer.

28. The waterproof recreation audio device of claim 27 wherein said communication between said sound source and said at least one transducer is via a wired connection.

29. The waterproof recreation audio device of claim 27 wherein said communication between said sound source and said at least one transducer is via a wireless connection.

30. The waterproof recreation audio device of claim 27 wherein said sound source is affixed to said means for said at least one transducer to be in contact with the head of said user.

31. The waterproof recreation audio device of claim 27 wherein said sound source is selected from the group consisting of MP3 player, tape player, radio, audio transceiver, and disc player.

32. A recreational audio device, comprising:

at least one transducer which enables music to be heard by a user via transcutaneous bone conduction; and

a support which supports said at least one transducer in contact with a head of a user at a plurality of locations around the head of said user.

33. The recreational audio device according to claim 32 wherein said at least one transducer includes a plurality of transducers.

34. The recreational audio device according to claim 32 wherein said at least one transducer can be removed from said support and re-positioned at at least one different location on said support.

35. The recreational audio device according to claim 32 wherein said at least one transducer can slide to different locations on said support.

36. The recreational audio device according to claim 32 wherein said support can be oriented at multiple orientations relative to a head of a user.

37. The recreational audio device of claim 36 wherein said support is a head band.

38. The recreational audio device of claim 32 further comprising waterproofing for said at least one transducer.

39. The recreational audio device of claim 32 further comprising a sound source for conveying musical signals to said at least one transducer.

40. A method for a user to listen to music via transcutaneous bone conduction, comprising the steps of:

supplying musical signals from a source to at least one transducer capable of transcutaneous bone conduction;

contacting a user's head with said at least one transducer; and

transmitting by transcutaneous bone conduction said musical signal to the user.

41. The method recited in claim 40, further comprising a step of tuning musical sound heard by a user.

42. The method of claim 41 wherein said step of tuning comprises changing point of contact of at least one transducer on a user's head.

43. The method of claim 42 wherein changing is accomplished by repositioning a support which supports said at least one transducer on said user's head.

44. The method of claim 42 wherein changing is accomplished by repositioning said at least one transducer on a support which supports said at least one transducer.

45. The method of claim 42 wherein changing is accomplished by sliding said at least one transducer to a different location on a support which supports said at least one transducer.

46. The method of claim 40 comprising adjusting volume of at least one a high, mid, or low frequency transmitted via transcutaneous bone conduction via said at least one transducer.

47. The method of claim 40 further comprising limiting a mid frequency range has a fixed maximum signal level of 90 dBa for 8 hours.